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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Masaaki Fukumoto

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EXAMINER

MILORD, MARCEAU

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,602	Applicant(s) FUKUMOTO ET AL.	
	Examiner Marceau Milord	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 12, 13 and 21-23 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 14-20 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 10-11, 14-20, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doi et al (US Patent No 6864780 B2) in view of (JP2001-352299 A).

Regarding claims 1, 10-11, Doi et al discloses an electric field communications system (figs. 1-3), comprising: a transmitter apparatus (10 of figs. 1-2), comprising: a transmitter main electrode provided in a location so as to readily exert an electric effect on a dielectric (col. 3, lines 53-65); a transmitter return electrode; a signal generator that generates an electric signal; and a modulator (15) that modulates a voltage difference between said transmitter main electrode and said transmitter return electrode in response to said electric signal; a receiver apparatus (40) , comprising: a receiver main electrode provided in a location where said receiver main electrode is readily subject to an electric effect from said dielectric (col. 4, lines 1-36); a receiver return

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electrode that establishes an electrostatic coupling with said transmitter return electrode (col. 4, line 53-col. 5, line 59).

However, Doi et al does not specifically disclose the features of a measuring part that measures an electric status generated between said receiver main electrode and said receiver return electrode; wherein, said measuring parts comprises: an electro-optical crystal that exhibits a Pockels Effect and modulates light penetrating said electro-optical crystal in response to an electric field in the space where said electro-optical crystal is located light emitting means that emits light to said electro-optical crystal; and light receiving means that receives light penetrating said electro-optical crystal, and output signals in response to the received light.

On the other hand, Reference 2 (JP 2002352299A), from the same field of endeavor, discloses the features of an electro-optical crystal that exhibits a Pockels Effect and modulates light penetrating said electro-optical crystal in response to an electric field in the space where said electro-optical crystal is located light emitting means that emits light to said electro-optical crystal; and light receiving means that receives light penetrating said electro-optical crystal, and output signals in response to the received light (figs. 1-3; pages 3-4). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of reference 2 (secondary reference) to the communication system of Doi in order to provide an electric field communication system that can increase the electro-static coupling of the transmitter and the receiver and use a high sensitivity electro-optical crystal.

Regarding claim 2, Doi et al as modified discloses an electric field communications system (figs. 1-3), wherein said receiver return electrode is connected to a plus power supply, a

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minus power supply, or a part having a low impedance and a stabilized electric potential (col. 5, lines 1-31; col. 7, lines 1-20).

Regarding claim 3, Doi et al as modified discloses an electric field communications system (figs. 1-3), wherein said receiver return electrode is connected to a cabinet, said cabinet accommodating said receiver return electrode and being made of conductive materials (col. 3, line 55-col. 4, line 23).

Regarding claim 4, Doi et al as modified discloses an electric field communications system (figs. 1-3), wherein said transmitter return electrode is connected to a plus power supply, a minus power supply, or a part having low impedance and stabilized electric potential (col. 4, lines 1-26; col. 5, line 36-col. 6, line 30).

Regarding claim 5, Doi et al as modified discloses an electric field communications system (figs. 1-3), wherein said transmitter return electrode is connected to a cabinet, said cabinet accommodating said transmitter return electrode and being made of conductive materials. (col. 3, line 55-col. 4, line 23).

Regarding claim 6, Doi et al as modified discloses an electric field communications system (figs. 1-3), wherein said transmitter apparatus and said receiver apparatus are included in a single cabinet (col. 4, lines 13-41).

Regarding claim 7, Doi et al as modified discloses an electric field communications system (figs. 1-3), wherein an electrode has functions of said transmitter main electrode and said receiver main electrode, or functions of said transmitter return electrode and said receiver return electrode (col. 4, line 53-col. 5, line 59).

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Regarding claim 8, Doi et al as modified discloses an electric field communications system (figs. 1-3), wherein said receiver return electrode is provided in a location where said receiver return electrode and said dielectric cannot contact one another when communication between said transmitter apparatus and said receiver apparatus is being performed (col. 3, lines 53-65).

Regarding claims 14, 18-20, 24-26, Doi et al discloses an electric field communications apparatus (figs. 1-3), comprising: a receiver (40 of fig. 1) main electrode provided in a location where said receiver main electrode is readily subject to receive an electric effect from said dielectric (col. 3, lines 53-65); a receiver return electrode that establishes an electrostatic coupling with said transmitter return electrode (col. 4, lines 1-36); and a measuring part that measures an electric status generated between said receiver main electrode and said receiver return electrode (col. 4, line 53-col. 5, line 59; col. 6, lines 12-45).

However, Doi et al does not specifically disclose the features of a measuring part that comprises: an electro-optical crystal that exhibits a Pockels Effect and modulates light penetrating said electro-optical crystal in response to an electric field in the space where said electro-optical crystal is located; light emitting means that emits light to said electro-optical crystal; and light receiving means that receives light penetrating said electro-optical crystal, and output signals in response to the received light.

On the other hand, Reference 2 (JP 2002352299A), from the same field of endeavor, discloses the features of an electro-optical crystal that exhibits a Pockels Effect and modulates light penetrating said electro-optical crystal in response to an electric field in the space where said electro-optical crystal is located light emitting means that emits light to said electro-optical

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crystal; and light receiving means that receives light penetrating said electro-optical crystal, and output signals in response to the received light (figs. 1-3; pages 3-4). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of reference 2 to the communication system of Doi in order to provide an electric field communication system that can increase the electro-static coupling of the transmitter and the receiver and use a high sensitivity electro-optical crystal.

Regarding claim 15, Doi et al as modified discloses an electric field communications apparatus (figs. 1-3), wherein said receiver return electrode is positioned far from said dielectric and faces to said dielectric (col. 3, lines 53-65).

Regarding claim 16, Doi et al as modified discloses an electric field communications apparatus (figs. 1-3), wherein said receiver main electrode and said receiver return electrode are positioned to locate said electro-optical crystal in an electric field generated between said receiver main electrode and said receiver return electrode (col. 4, line 53-col. 5, line 59).

Regarding claim 17, Doi et al as modified discloses an electric field communications apparatus (figs. 1-3), wherein said receiver main electrode and said receiver return electrode are positioned to be in opposing relation to one another across at least a part of said electro-optical crystal (col. 4, lines 1-26; col. 5, line 36-col. 6, line 30).

Regarding claim 23, Doi et al as modified discloses an electric field communications apparatus (figs. 1-3), wherein: said receiver main electrode is positioned near said transmitter main electrode; and said electric field communications apparatus receives an electric effect not through said dielectric but directly (col. 5, lines 1-31; col. 7, lines 1-20).

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Regarding claim 27, Doi et al as modified discloses an electric field communications apparatus (figs. 1-3), wherein said receiver main electrode has a hole (col. 3, lines 53-65).

Regarding claim 28, Doi et al as modified discloses an electric field communications apparatus (figs. 1-3), wherein said receiver main electrode is connected to a receiver return electrode of another electric field communications apparatus (col. 5, lines 36-65).

Allowable Subject Matter

3. Claims 9, 12-13, 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marceau Milord
Primary Examiner
Art Unit 2618

/Marceau Milord/
Primary Examiner, Art Unit 2618